

HLS-2B Class D Hearing Loop Driver with Battery Back-Up

The HLS-2B hearing loop driver features a DM2 Induction Loop driver in an advanced rugged amplifier enclosure primarily designed for lift/elevator applications or other industrial environments.

The HLS series units feature efficient class D current drive technology to reduce power consumption and heat output and are the only small area induction loop solutions capable of reliably driving most practical small area loops in high metal environments to meet the IEC60118-4 Standard.

The amplifier enclosure is constructed of a robust steel housing and the solution features a battery back-up in the event of a power failure that will provide 12 hours of standby time or 2 hours in full operation. It is further protected by a 5 year warranty from Ampetronic.

The magnetic field strength and distribution in a lift car will be highly dependent on installation method and the construction of the lift car. It is strongly recommended that you contact Ampetronic for free technical support and advice on the best methodology and design for your specific application.



Features

- **Compact & lightweight**
- **Class D Efficiency**
- **Unrivalled Intelligibility**
- **2 transformer isolated inputs**
- **Simple Integration**
- **Full Area Coverage Lifts**
- **Metal loss correction**
- **Unrivalled intelligibility**
- **Low lifetime cost**
Excellent reliability, 5 year warranty & free technical support
- **1:1 Potential area coverage of up to 36m²**
Single turn 2.5mm wire floor level loop @ 1:1 ratio, 2m feed cable, no metal loss
- **3:1 Potential area coverage of up to 29m²**
Single turn 2.5mm wire, floor level loop @ 3:1 ratio, 2m feed cable, no metal loss
- **1:1 Practical lift application area coverage of up to 16m²**
Ceiling mounted lift bars @ 2.1m height, 1m feed cable, 12dB metal loss
- **1:1 Practical lift application area coverage of up to 12m²**
Ceiling mounted lift bars @ 2.1m height, 2m feed cable, 12dB metal loss

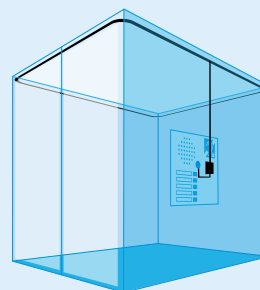
Recommended installation – full area coverage / perimeter loop

The HLS-2B is designed to provide full area coverage of the lift car by driving a single turn loop around the perimeter of the lift car positioned at ceiling height. The loop must not be behind metal panels or inside a metal enclosure in the roof space as this normally causes unacceptable reduction and distortion of the magnetic field.

There are two standard options for the loop itself:

LOOP BARS - The most robust solution is to attach custom built stainless steel loop bars to the ceiling inside the lift. Loop bars can be custom designed and supplied by Ampetronic to fit your specific requirements. Loop bars provide a robust and aesthetically pleasing solution with excellent performance.

LOOP CABLE - In some lifts it is possible to fit a single coil of 2.5 mm² loop cable inside the lift behind non-metallic trim, or in rare cases inside the roof space if non-metallic.

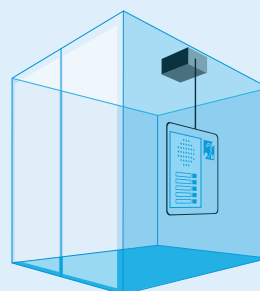


Localised area coverage installation

Where an area coverage loop can not be installed, the HLS-2B can be used to drive a smaller loop placed on or inside non-metallic wall panels or trim (for this type of application it is also possible to use other lower cost Ampetronic HLS series amplifiers if the high level of robustness and battery backup of the HLS-2B is not required).

This style of installation restricts the useful magnetic field to an area no more than 1m from the loop coil, making such a small loop ineffective for large lifts and for use with a Public Address system or for safety communications such as a Voice Evacuation System.

Installation behind a metal panel or metal trim will rarely produce an effective magnetic field with any amplification method. Please contact Ampetronic for detailed guidance on the best installation method for your lift car or industrial environment.



Product Information

Power

Nominal supply voltage	230V 45-65 Hz
Fuse	1AT (120V AC Mains), 0.63AT (230V AC Mains)
Supply current (max)	190 mA

Battery backup

Battery capacity	2.1 Ah 12 V
Battery life	12 hours standby plus 2 hours full power speech operation
Power indicator	LED inside unit indicates power status
Charging	Custom charging circuit to optimise battery life

Accessories

Loop Bars	2 or 4 bar loop assemblies built to fit the lift and can be finished in the same colour as lift Interior.
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Standards Compliance

Safety, EMC

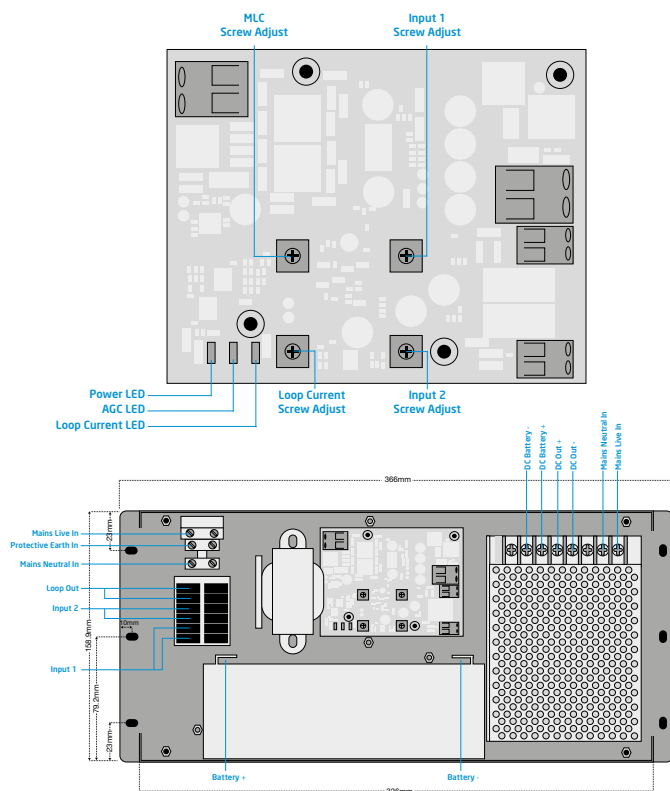
The HLS-2B is CE marked to indicate compliance with relevant product safety and EMC standards.

Loop Performance

The HLS-2B will allow an Audio Frequency Induction Loop system that meets the requirements of IEC 60118-4 to be created, if the system is specified, installed and commissioned in an appropriate manner, including observing Ampetronic instructions.

Datasheet & Specifications

All information specified on this datasheet has been compiled in accordance with the IEC 62489-1: 2010 Standard and reflects actual performance in realistic applications.



INPUTS

Power Supply	Supply voltage range:	90-264V AC (Mains)
	Connector:	Fused screw terminal -
	Power consumption:	230V AC Supply into rated load 1.5mm ² solid core or untinned fine stranded wire.
	Fuse:	1AT (120V) 0.63AT (230V)
Input 1 & 2	Power Consumption:	12W (110mA) continuous pink noise (230V AC supply) 25W (190mA) continuous sine 3.25W (<60mA) quiescent
	Indication:	LED on PCB
	Connector:	Wago 264 cage clamp for 0.78 - 2.5mm ² solid core or untinned fine stranded wire
Line Level (Lo Z speaker)	Rated source impedance:	1.8k Ω differential,
	Input isolation:	1500V
	Rated source EMF (sensitivity):	-16dBu for full output
	Overload:	> +22dBu
	SnR:	>90dB
	Adjustment:	Level control, per channel

OUTPUTS

Loop Output	Connector:	Wago 264 cage clamp for 0.78 - 2.5mm ² solid core or untinned fine stranded wire
	Compliance voltage:	1.1V _{RMS} (1.6V _{pk})
	Max output current (sine):	11A _{RMS}
	Rated time for delivery:	1min
Loop Impedance	Rated temperature limited output current (pink):	6A _{RMS}
	Rated THD:	<1%
	Output Impedance:	>1 Ω
	Current Adjustment:	Full range
	Current Indication:	LED indicates >3A _{RMS}
Loop Impedance	0.1 Ω to 0.2 Ω , 0.14 Ω reactive at 1.6 KHz	
	Rated Load:	9uH, 0.1R

AUDIO SYSTEM

Freq. Response	100Hz to 5kHz \pm 1.5dB relative to 1kHz at low level, measured as loop current with no metal loss correction.	
Compression (AGC)	Time constants optimised for speech	
	Dynamic range:	>36dB
	Control:	by adjusting input level/gain
	Indication:	LED on PCB
Metal Loss	0dB to 3dB / octave boost	
Correction	Adjustable	

PHYSICAL

Dimensions	Power Option:	230V AC
	Width	158mm
	Length	366mm
	Height	49mm
Weight	3kg	
Environment	IP22: <90% relative humidity, -20 to +50 °C (battery float life derates by 4% per °C above 25°C)	

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